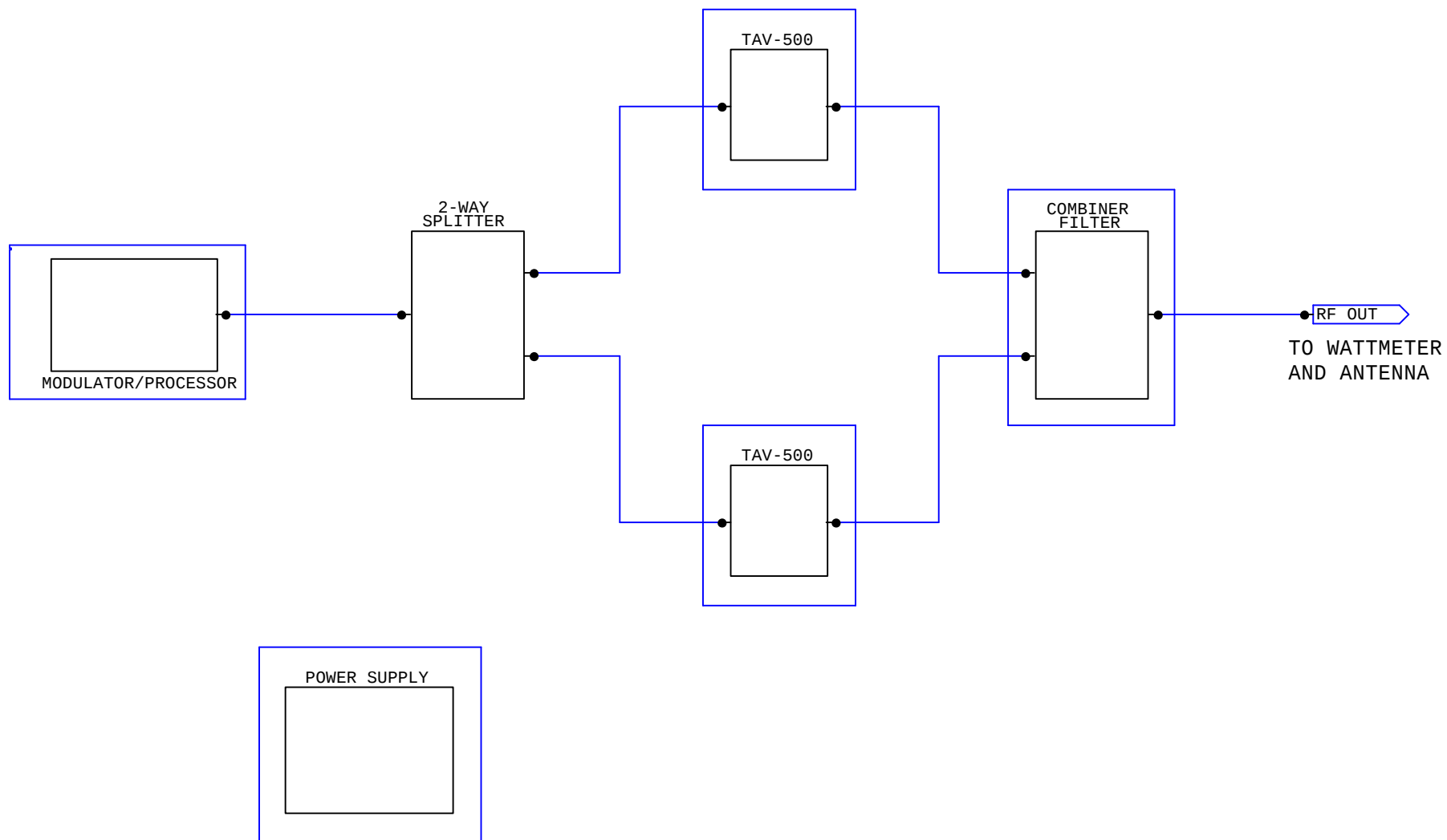


Principle of Operation

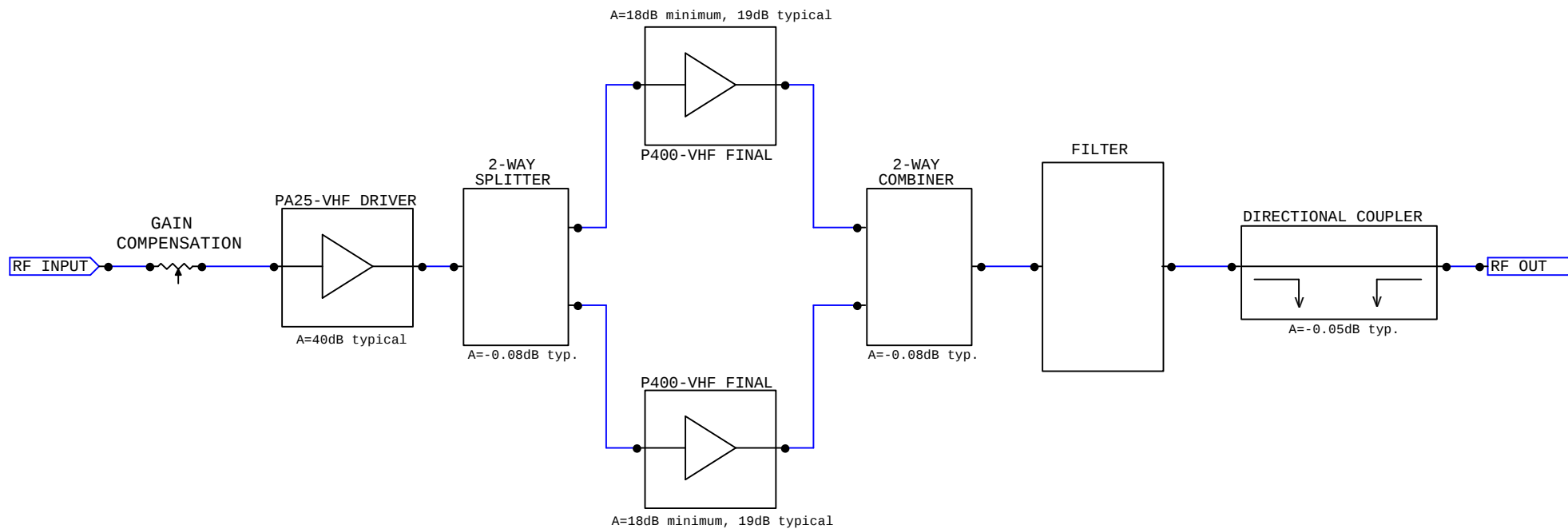
The TAV-1000 power amplifier supplies a 1000-watt peak video signal with 10% aural power on any of the VHF television channels 2 through 13. Please note that channel selection must be made at time of order, as the transmitter or translator is calibrated and tested to the channel requested and is not field tuneable. The TAV-1000 power amplifier is a modular solid-state 1000-watt broadcast amplifier utilizing readily available RF components wherever possible, thus enhancing the serviceability of the equipment. The TAV-1000 features ultra linear amplification and individual channel RF output bandpass filtering. The amplifier modules are stable for high reliability and long service life.

The amplification of the TAV-1000 is comprised of (2) TAV-500 500-watt power amplifiers. Firstly, the output of the modulator or processor gets split into (2) RF signals of equal amplitude. Each output of the 2-way power divider is then fed into a TAV-500 Power Amplifier. Finally, the outputs of each TAV-500 are combined to generate 1000-watts of peak visual power in addition to an aural carrier, as seen in the TAV-1000 block diagram.



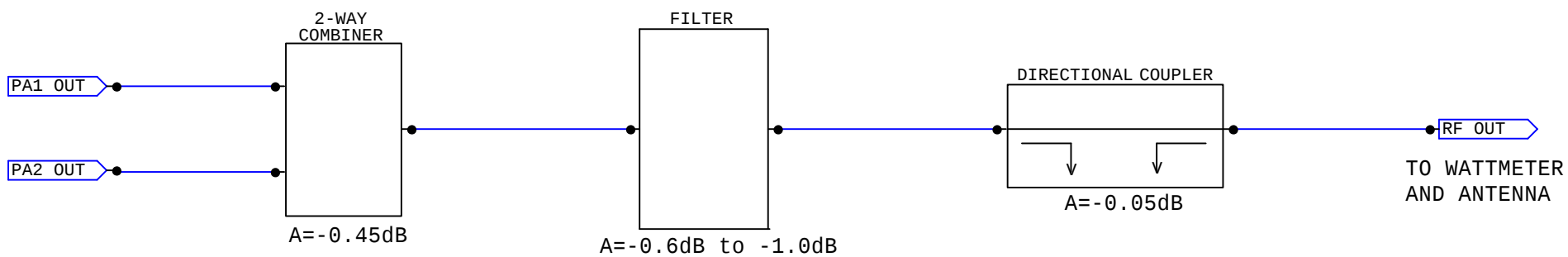
TAV-1000 Overall Block Diagram		
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Inside each 500-watt power amplifier, the signal gets split into (2) signals for final amplification using a 2-way Wilkinson power divider. The final amplification stage is comprised of (2) P400-VHF-L or (2) P400-VHF-H final amplifiers, for low or high band VHF, respectively. The outputs of the (2) final amplifier pallets are combined with a 2-way Wilkinson combiner and pass through a dual directional coupler for protection and monitoring purposes, as illustrated in the following TAV-500 block diagram.



TAV-500 Block Diagram		
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After amplification, the signal exits the power amplifier enclosure and goes into the combiner/filter enclosure, where the signals from each 500-watt amplifier are combined. After combining, the amplified signals are filtered with a bandpass filter and monitored again with another directional coupler before heading out to an antenna for broadcast, as depicted in the following combiner block diagram.



TAV-1000 Combiner Enclosure Block Diagram

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